

EXPERIMENTO 1 - DEBUG VIA COMUNICAÇÃO SERIAL

Sistema Microcontrolados

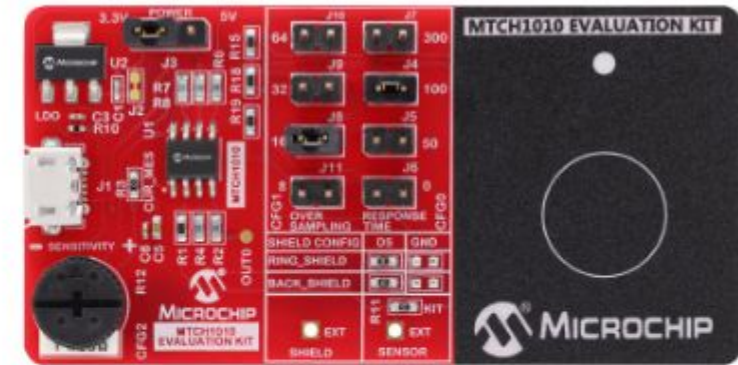
MTCH1010 Evaluation Kit (EV24Z38A)


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The MTCH1010 Evaluation Kit enables a complete out of the box experience to explore the water tolerant and robust touch of the MTCH1010. The MTCH1010 is a single button touch turnkey device fulfilling the demanding expectations in touch. The MTCH1010 is full GPIO controlled and configured for most fast integration. The MTCH1010 Evaluation kit is tested against IEC61000-4-6 conductive noise

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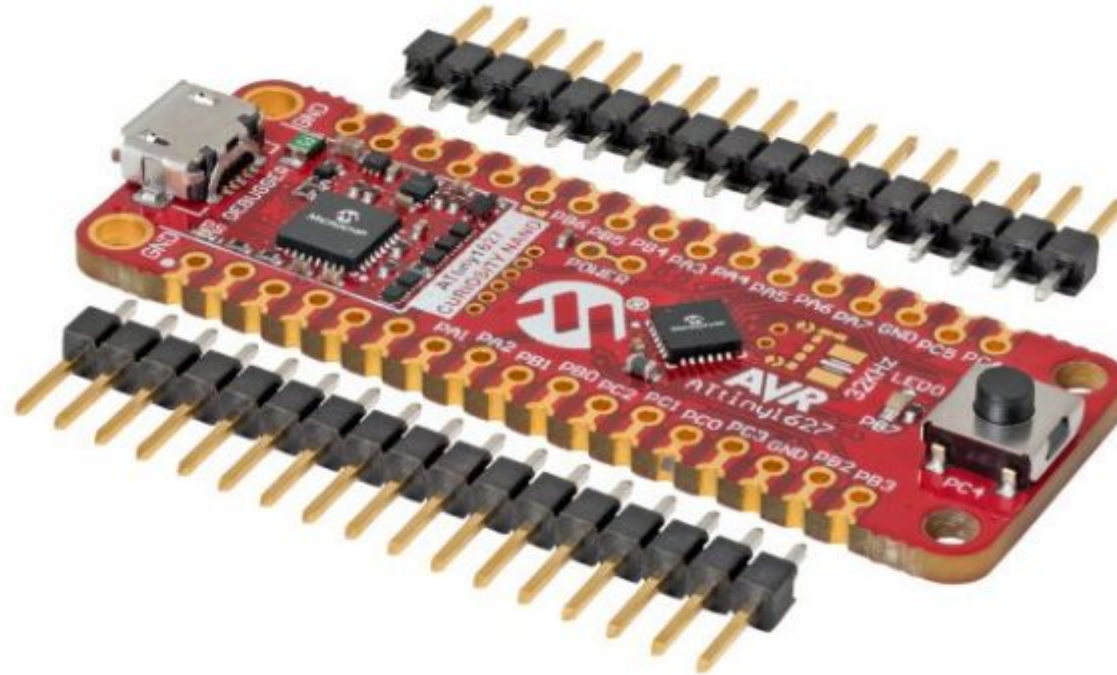
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ATtiny1627 Curiosity Nano Evaluation Kit




ATtiny1627 Curiosity Nano Board
(Part # DM080104)



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MCUXpresso Integrated Development Environment (IDE)

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Supported Devices

System Requirements

Overview

The MCUXpresso IDE brings developers an easy-to-use Eclipse-based development environment for NXP® MCUs based on Arm® Cortex®-M cores, including its general purpose crossover and wireless - enabled MCUs. The MCUXpresso IDE offers advanced editing, compiling, and debugging features with the addition of MCU-specific debugging views, code trace and profiling, multicore debugging, and integrated configuration tools. The MCUXpresso IDE debug connections support

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USER GUIDE

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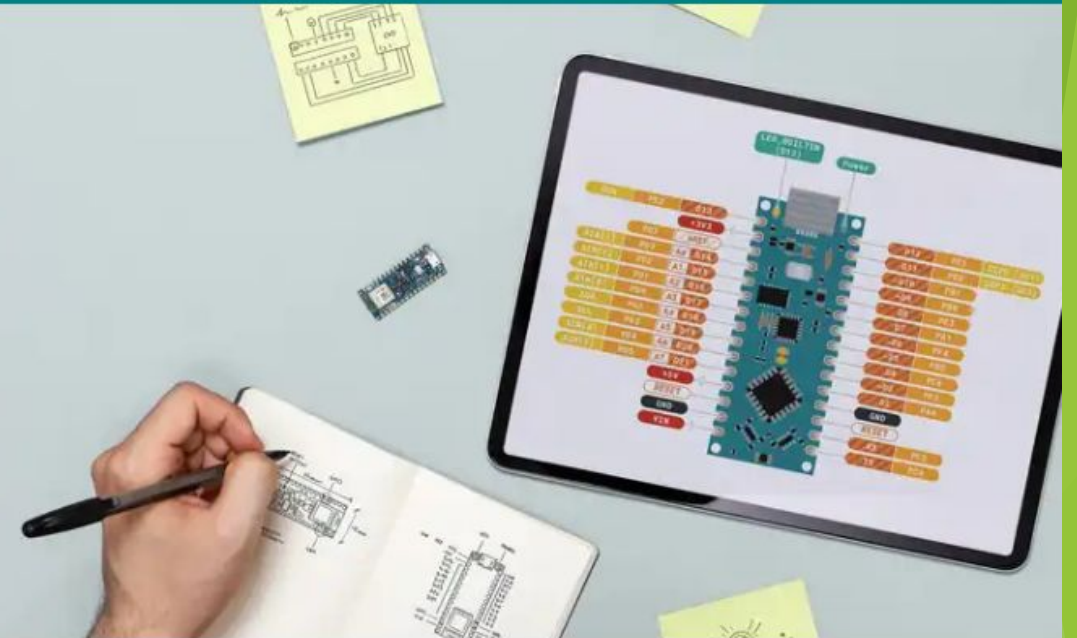
Features

- A complimentary, unlimited code size, easy-to-use IDE
- Advanced editing, compiling and editing with syntax coloring, MCU-specific debugging views, code trace and profiling
- Use built-in SDK selection tool, or drag and drop pre-built packages made with SDK Builder
- Ubuntu 18.04 LTS / 20.04.2 LTS, Github project development support



Arduino Documentation

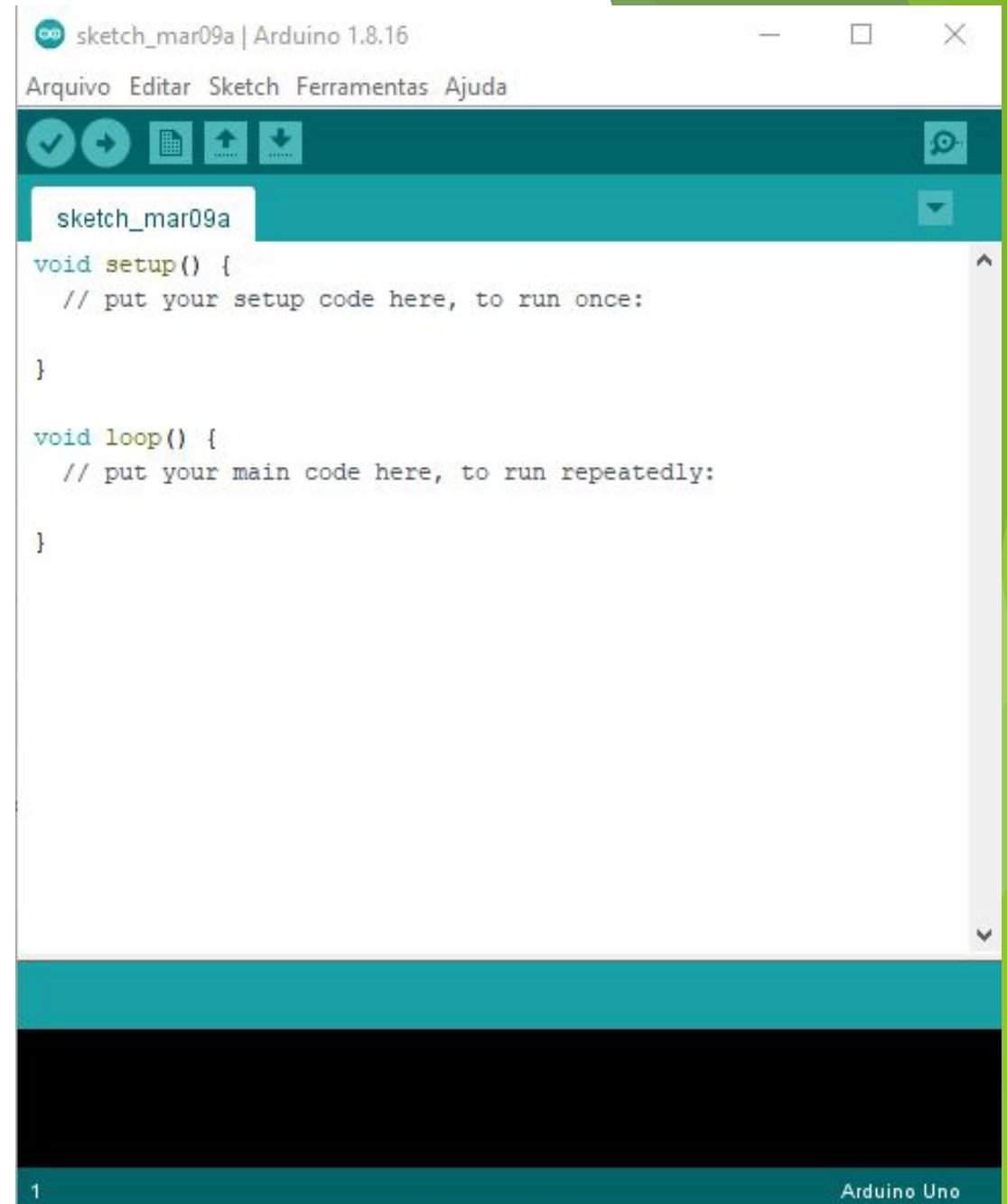
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Interface com o Arduino



Comunicação serial

Exemplo para o Arduino Mega:

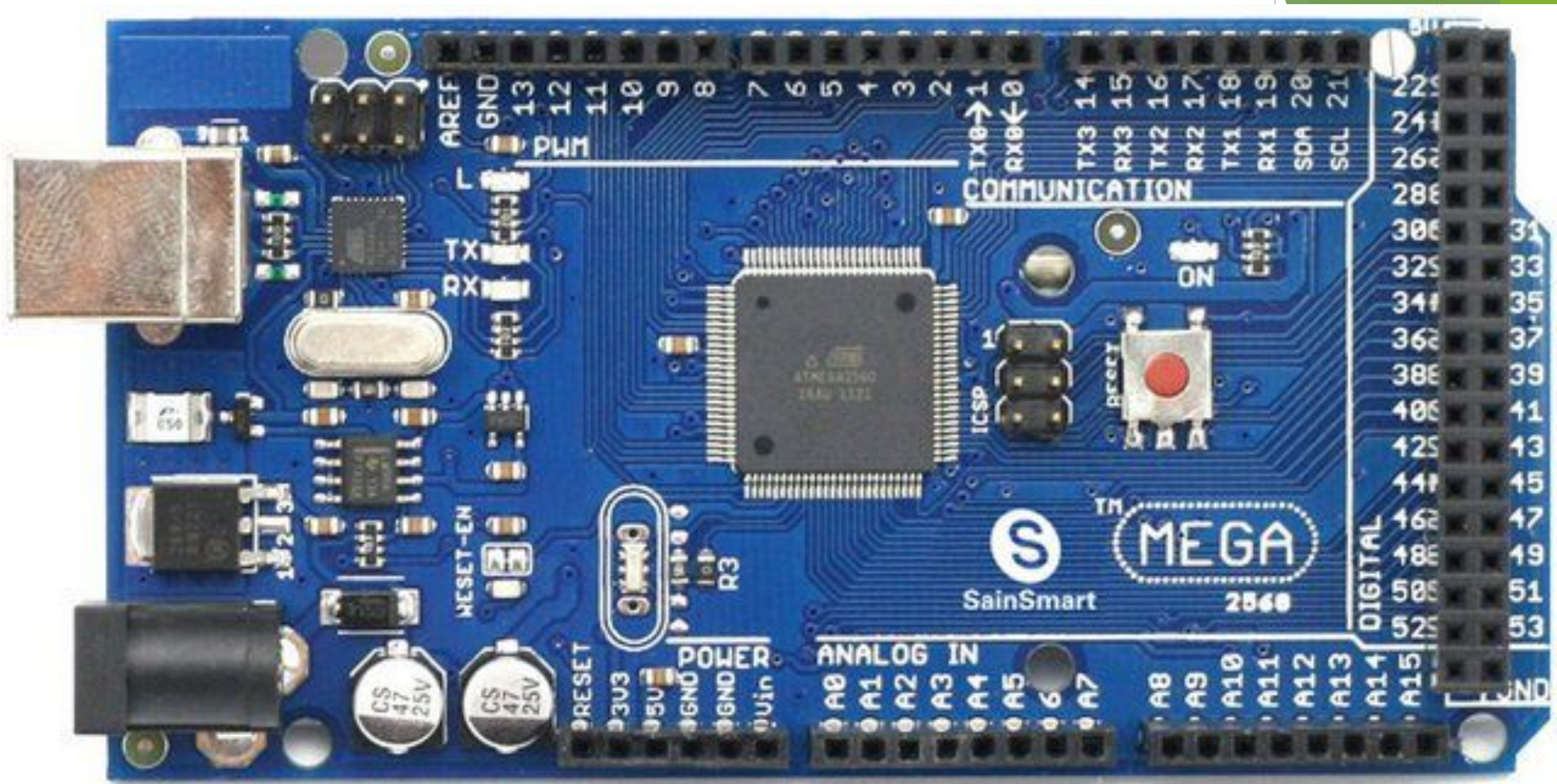
O código abaixo inicia todas as portas seriais no Arduino Mega com diferentes taxas de transmissão.

```
// Exemplo por Jeff Gray (originalmente em Inglês)
// Arduino Mega usando todas suas quatro portas seriais
// (Serial, Serial1, Serial2, Serial3),
// com baud rates diferentes:
```

```
void setup() {
  Serial.begin(9600);
  Serial1.begin(38400);
  Serial2.begin(19200);
  Serial3.begin(4800);

  Serial.println("Hello Computer");
  Serial1.println("Hello Serial 1");
  Serial2.println("Hello Serial 2");
  Serial3.println("Hello Serial 3");
}

void loop() {
}
```

BOARD	USB CDC NAME	SERIAL PINS	SERIAL1 PINS	SERIAL2 PINS	SERIAL3 PINS
Uno, Nano, Mini		0(RX), 1(TX)			
Mega		0(RX), 1(TX)	19(RX), 18(TX)	17(RX), 16(TX)	15(RX), 14(TX)
Leonardo, Micro, Yún	Serial		0(RX), 1(TX)		
Uno WiFi Rev.2		Connected to USB	0(RX), 1(TX)	Connected to NINA	
MKR boards	Serial		13(RX), 14(TX)		
Zero	SerialUSB (Native USB Port only)	Connected to Programming Port	0(RX), 1(TX)		
Due	SerialUSB (Native USB Port only)	0(RX), 1(TX)	19(RX), 18(TX)	17(RX), 16(TX)	15(RX), 14(TX)
101	Serial		0(RX), 1(TX)		

Delay

The code pauses the program for one second before toggling the output pin.

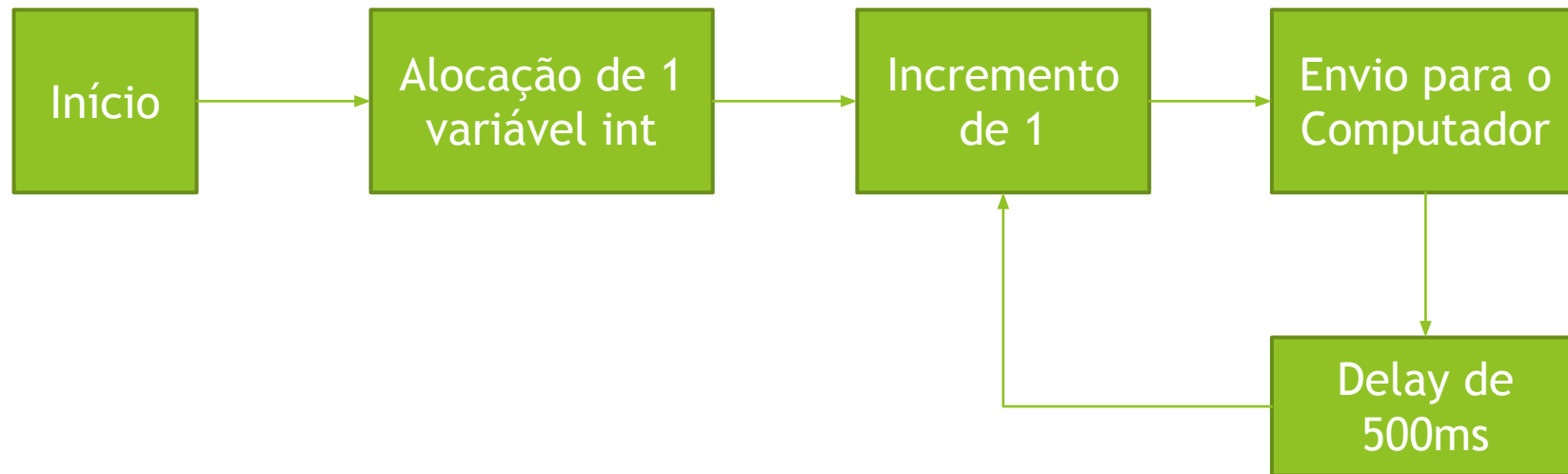
```
int ledPin = 13;           // LED connected to digital pin 13

void setup() {
  pinMode(ledPin, OUTPUT); // sets the digital pin as output
}

void loop() {
  digitalWrite(ledPin, HIGH); // sets the LED on
  delay(1000);                // waits for a second
  digitalWrite(ledPin, LOW);  // sets the LED off
  delay(1000);                // waits for a second
}
```

Exercício 1

- ▶ Faça um script que crie uma variável, faça a alteração do valor armazenado nessa variável conforme o fluxograma e envie, via serial, para o computador.
- ▶ Apresente os valores na IDE, no formato de gráfico.



Exercício 2

- ▶ Faça um script que crie uma variável, faça a alteração do valor armazenado nesta variável conforme o fluxograma e envie, via serial para o computador.
- ▶ Apresente os valores na IDE, no formato de gráfico.

